

Patent Claims:

1. Device to create selector positions, that includes at least

- 5 - a base body (8), that is at least partially surrounded by
- a housing body (2),
- whereby the housing body (2) includes a disk body (3), that is secured by a basic position magnet arrangement (6) with respect to base body (8) and that may be moved by at least one motion element (5) with respect to the base body (8).

2. Device to create selector positions, that includes at least

- 15 - a base body (8), that is at least partially surrounded by
- a housing body (2),
- whereby the housing body (2) includes a disk body (3), that is secured by a basic position magnet arrangement (6) with respect to base body (8) and
- 20 that may be moved by at least one motion element (5) with respect to the base body (8), and
- a position arrangement (7), by means of which at least the position between the base and the housing body (2, 8) may be determined.

3. Device to create selector positions, that includes at least

- a base body (8), that is at least partially surrounded by
- a housing body (2),

5 - whereby the housing body (2) includes a disk body (3), that is secured by a basic position magnet arrangement (6) with respect to base body (8) and that may be moved by at least one motion element (5) with respect to the base body (8),

10 - a stator body element (14) with

- \* at least one magnet element (12.1, 12.2, 12.3, 12.4),
- \* at least one noise sphere receptor recess (19, 20), in which a switching-sound sphere (15, 16) is positioned, and

15 \* a shaft guide recess (10),

- a base body formed as a rotor hollow body (8) with at least

\* one position sensor toothed ring element (13) with at least one position sensor tooth (26), that may be placed opposite the magnet elements (12.1, ...),

20 \* one switching-sound ring magnet element (17) with at least a switching-sound groove (18.1, ..., 18.n), into which the switching-sound spheres (15, 16) may be inserted,

\* one shaft element (9), that is positioned in the shaft guide recess (10) and

- at least one position arrangement (7), by means of which at least the position between the rotor hollow body (8) and the housing body and/or between the rotor hollow body (8) and the [stator body element] (14) may be determined.

4. Device to create selector positions, that includes at least

- a base body (8), that is at least partially surrounded by

- a housing body (2),

- whereby the housing body (2) includes a disk body (3), that is secured by a basic position magnet arrangement (6) with respect to base body (8) and

that may be moved by at least one motion element (5) with respect to the base body (8),

- a stator body element (14) with

\* at least one magnet element (12.1, 12.2, 12.3, 12.4),

\* at least one noise sphere receptor recess (19, 20), in which a switching-sound sphere (15, 16) is positioned, and

\* a shaft guide recess (10),

- a base body formed as a rotor hollow body (8) with at least

\* one position sensor toothed ring element (13) with at least one position sensor tooth (26), that may be placed opposite the magnet elements (12.1,...),

\* one switching-sound ring magnet element (17) with at least a switching-sound groove (18.1,..., 18.n), into which the switching-sound spheres (15, 16) may be inserted,

\* one shaft element (9), that is positioned in the shaft guide recess (10),

- a moveable tip magnet element (36), with at least one magnet repelling element (32, 37) positioned opposite it by means of which a characteristic motion line (KL) may be created, and

- at least one position arrangement (7), by means of which at least the position of the moveable magnet element (36) may be determined between the rotor hollow body (8) and the housing body (2) and/or the position between the rotor hollow body (8) and the stator body element (14) and/or with a switching point (KS) after a curve maximum (KLM).

5. Device according to Claim 1 or 2 or 3 or 4,  
characterized in that the disk body (3) may be tilted by  
the motion element (5) with respect to the rotor hollow  
body (8).

6. Device according to Claim 1 or 2 or 3 or 4,  
characterized in that the disk body (3) may be displaced by  
motion element (5) with respect to the rotor hollow body  
(8).

7. Device according to one of Claims 1 through 6,  
characterized in that the housing body (2) is at least  
partially surrounded by a holding hollow cylinder (24) that  
at least partially rests on a dimming element.

8. Device according to one of Claims 1 through 7,  
characterized in that the housing body (2) includes a tilt  
switch receiver recess (25) in which the disk body (3) is  
held with the basic position magnet arrangement (6)  
opposing the rotor hollow body (8).

9. Device according to one of Claims 1 through 8,  
characterized in that the tip switch recess (25) is  
provided with an at least partially surrounding  
displacement wall (11) and the disk body (3) is provided

with an at least partially surrounding displacement body recess (23).

10. Device according to one of Claims 1 through 9, characterized in that the basic position magnet arrangement (6) consists of an upper magnet (6.1) positioned in the disk body (3), opposing which an lower plate element (6.2) is positioned that is located within a final plate element (8.1) of the rotor hollow body (8).

11. Device according to Claim 10, characterized in that the lower plate element is formed by an iron plate element or by a lower magnet (6.2).

12. Device according to one of Claims 2 through 11, characterized in that the position arrangement (7) consists of a light switch or of a magnet arrangement (7.1, 7.2), opposite which at least one display Hall switch (7.3) may be moved.

13. Device according to one of Claims 2 through 13, characterized in that the magnet arrangement consists of a display magnet element (7.1) which is positioned in the disk bodies (3), to which at least one display plate (7.2) is assigned, and on which a first display Hall switch (7.3) is mounted.

14. Device according to one of Claims 2 through 13,  
characterized in that the magnet arrangement consists of  
one ring magnet element (7.1', 7.2') with a north and a  
south pole (N, S) that is held by the disk body (3) and has  
a working relationship with the rotor hollow body (8) and  
to which at least a second display Hall switch (7.3) is  
assigned, which is held by the stator body element (14).

15. Device according to one of Claims 2 through 15,  
characterized in that a displacement display switch (7.3'),  
tip display switch (7.3'') and/or rotation display switch  
(7.3''') are used as a display Hall switch (7.3).

16. Device according to one of Claims 2 through 16,  
characterized in that a double Hall switch (43) is assigned  
to at least one of the magnet elements (12.1, ...) as a  
position arrangement.

17. Device according to Claim 16, characterized in that  
additional double Hall switches are used as a rotation  
display switch (7.3''').

18. Device according to one of Claims 1 through 17,  
characterized in that a label plate (4) is positioned in  
the disk body (3).

19. Device according to one of Claims 1 through 18,  
characterized in that the disk body (3) and the rotor  
hollow body (8) are connected via linking pin (49).

20. Device according to one of Claims 1 through 19,  
characterized in that two opposing noise sphere receptor  
recesses (19, 20) are positioned in the stator body element  
(14) in each of which a switching-sound sphere (15, 16) is  
located.

21. Device according to one of Claims 1 through 20,  
characterized in that there are as many switching-sound  
grooves (18.1, ..., 18.n) in the switching-sound ring magnet  
element (17) as there are position sensor teeth (26) on the  
position sensor ring element (13).

22. Device according to Claim 21, characterized in that the  
positions of the switching-sound grooves (18.1, ...) and  
the position sensor teeth (26) are mutually compatible.

23. Device according to one of Claims 4 through 22,  
characterized in that at least the plate element (32)  
is positioned on the one side and a counter-magnet  
element (37) as a repelling magnet element is  
positioned on the other side opposing the tilt magnet  
element (36).



24. Device according to one of Claims 4 through 24,  
characterized in that the tilt magnet element (36) is  
positioned with its one magnetic pole (N, S) opposite the  
same magnetic pole (N, S) of the counter-magnet element  
(37) and with its other magnetic pole (N, S) at least  
opposite the plate element (32).

25. Device according to one of Claims 1 through 25,  
characterized in that the tilt magnet element (36) includes  
as one half magnetic north pole (N) and as the other half a  
magnetic south pole (S).

26. Device according to one of Claims 4 through 26,  
characterized in that a damping body (35) is at least  
partially positioned between the plate element (32) and the  
tilt magnet element (36).

27. Device according to one of Claims 4 through 26,  
characterized in that the plate element is a steel plate  
element (32).

28. Device according to one of Claims 4 through 27,  
characterized in that the tilt magnet element (36), the  
counter-magnet element (37), the steel plate element (32)

and the damping body (35) are positioned in a tilt switch housing body (38).

29. Device according to one of Claims 4 through 28,  
characterized in that the tilt switch housing body (38) may  
5 be inserted into the tilt switch receiver recess (25) of  
the stator body elements (14).

30. Device according to one of Claims 4 through 29,  
characterized in that the tilt magnet element (36) may be  
displaced by a pushrod element (31) that is integrated in  
10 the shaft element (9).

31. Device according to one of Claims 1 through 30,  
characterized in that the magnet elements (12.1, ...), the  
ring magnet element (7.1', 7.2'), the switching-sound ring  
magnet element (17), the tilt magnet element (36), and the  
15 counter-magnet element (37) are permanent magnets.

32. Device according to one of Claims 1 through 31,  
characterized in that the motion element (5) is formed as  
an at least partially surrounding groove with an at least  
partially round, oval, triangular or similar geometric  
20 cross-section.

33. Device according to one of Claims 1 through 32,  
characterized in that the motion element (5) is at least  
one sphere.

34. Device according to one of Claims 4 through 33,  
5 characterized in that at least the tilt magnet element (36)  
is at least partially surrounded by an iron yoke (66).

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